

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6: C07H 21/00, C12N 15/09, C12Q 1/68

A3

(11) International Publication Number:

WO 96/16073

(43) International Publication Date:

30 May 1996 (30.05.96)

(21) International Application Number:

PCT/US95/15319

(22) International Filing Date:

22 November 1995 (22.11.95)

(30) Priority Data:

08/344,820

23 November 1994 (23.11.94) US

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**Published** With international search report.

(88) Date of publication of the international search reports

(81) Designated States: AU, CA, JP, European patent (AT, BE,

CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT,

1 August 1996 (01.08.96)

(54) Title: CODON AMIDITES AND METHOD OF USING THEM TO PRODUCE OLIGONUCLEOTIDES AND MUTAGENESIS LIBRAPIES

(57) Abstract

Compounds of formula (1) or (2) wherein W, X, Y and Z are each independently hydrogen or a protecting group; B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> are each independently a base selected from the spoup consisting of adenine, guanine, cytosine, thymine and uracil; and is the residue of a ribose or deoxyribose, and methods for their synthesis and use are disclosed.

$$WO - - \begin{vmatrix} B^3 & B^2 & B^1 \\ O - - P - - (O) & O - P - - (O) \\ O - X & O - X & N - (Y)_2 \end{vmatrix}$$

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#### IN ANATIONAL SEARCH REPORT

Intertainment Application No PCT/US 95/15319

A. CLASSIFICATION OF SUBJECT MATTER
1PC 6 C07H21/00 C12N15/09 C12Q1/68 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 6 C07H C12N C12Q Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Ejectronic data base consulted during the international search (name of data base and, where practical, search terms used) C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1-3,6-11 WO,A,93 21203 (THE JOHNS HOPKINS X UNIVERSITY) 28 October 1993 see page 6 NUCLEIC ACIDS RESEARCH. 1-3,6-11 P,X vol. 22, no. 25, 25 December 1994, OXFORD pages 5600-5607, XP002002308 VIRENKÄS B. ET AL: "Trinucleotide phosphoramidites: ideal reagents for the synthesis of mixed oligonucleotides for random mutagenesis" see the whole document -/--Х Patent family members are listed in annex. Further documents are listed in the continuation of box C. X Special categories of cited documents: "I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the document defining the general state of the art which is not considered to be of particular relevance INVENTION 'E' earlier document but published on or after the international 'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document referring to an oral disciosure, use, exhibition or document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. document published prior to the international filing date but later than the priority date claimed '&' document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 30.05.96 14 May 1996 Authorized officer Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Ripwijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Day, G

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